SINTEF Technical Approval

TG 2303

Issued first time: 14.03.2002
Revised: 30.05.2022
Amended:
Valid until 01.06.2027
Provided listed on
www.sintefcertification.no

SINTEF confirms that

CombiCoat®

has been found to be fit for use in Norway and to meet the provisions regarding product documentation given in the regulation relating to the marketing of products for construction works (DOK) and regulations on technical requirements for building works (TEK), with the properties, fields of application and conditions for use as stated in this document

1. Holder of the approval

Vik Ørsta AS
Postboks 193
6151 Ørsta
www.vikorsta.no

2. Product description

CombiCoat® is corrosion protection for steel products based on surface treatment with zinc and powder coating. The products have documentation that the hot-dip zinc coating is in accordance with EN ISO 1461. The metal surface is zinc/manganese phosphate treated before painting. The paint coat is at least 60 µm thick and consists of primid-cured polyester. The paint coat achieves full strength during the production process.

3. Fields of application

CombiCoat® is suitable for use in all atmospheric corrosion classes, including CX, according to EN ISO 12944-2:2017, with expected service life as stated in Table 2.

4. Product performance

General
The approval applies to the corrosion protection properties of steel products. Product characteristics for new material are given in Table 1.

5. Environmental aspects

Substances hazardous to health and environment
CombiCoat® contains no hazardous substances with priority in quantities that pose any increased risk for human health and environment. Chemicals with priority include CMR, PBT or vPvB substances.

Effect on soil, surface water and ground water
CombiCoat® has not been tested for leaching to soil and water.

CombiCoat® should be sorted as metal. The product shall be delivered to an authorized waste treatment plant for material recovery.

Environmental declaration
An environmental product declaration (EPD) has been prepared for CombiCoat® in accordance with EN 15804. For the full environmental declaration, see EPD no. NEPD-2710-1416-NO, https://www.epd-norge.no/.

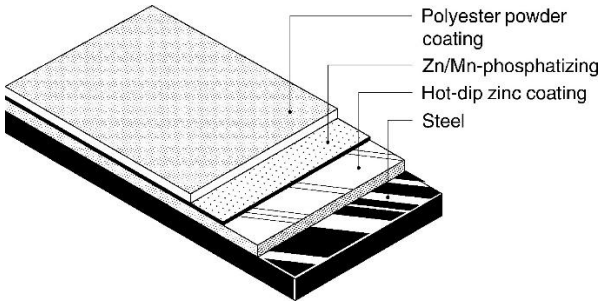

Fig. 1
Cross-section of CombiCoat® surface treatment

6. Conditions of use

CombiCoat® shall not be exposed for the following chemicals:

- Strong acids
- Strong bases
- Aromatic solvents
- Gasoline
- Organic solvents as acetone, ethyl acetate MEK (methyl ethyl ketone) and TRI (trichloroethylene)

CombiCoat® should be inspected annually for damage that can reduce durability.

7. Product and factory production control

CombiCoat® is produced by Vik Ørsta AS, PO Box 193, 6151 Ørsta, Norway

The holder of the approval is responsible for maintaining the factory production control to ensure that CombiCoat® is manufactured in compliance with the preconditions upon which this approval is based.

The manufacturing of the product and the manufacturer's system for factory production control (FPC) is subject to continuous surveillance in accordance with the contract regarding SINTEF Technical Approval.

Vik Ørsta AS has a quality system certified according to EN ISO 9001 and environmental management system that is certified according to EN ISO 14001.

SINTEF Certification
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SINTEF AS
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Entreprise register: NO 919 303 808 MVA

Table 1
Product characteristics for CombiCoat®

Property	Method	Value	Unit
Film thickness	Inductive meter acc. ISO 2808	≥ 60	µm
Surface properties	Visual assessment acc. ISO 4628	0 – 1	Classification
Structure of phosphate layer	Electron microscope (SEM)	Approved	
Adhesion	Cross-cut test acc. ISO 2409	0 – 1	Classification
Coating hardening	30 double strokes with MEK acc. Jotun QC Doc 10.230.37.G140	A1	Classification [1)]
Adhesion after boil test	Boiling in deionized water for 2 hours acc. Jotun QC Doc10.230.37.R080 +ISO 2409	1 – 2	Classification [2)]
Material identification	FTIR analysis	Range between 4000-400	cm-1

[1)] 10.230.37.G140 "Solvent resistance as an indicator for the powder coatings degree of hardening"
[2)] 10.230.37.R080 "Resistance to boiling water for powder coatings"

Table 2
Life expectancy for powder coated and hot dip galvanized steel in different corrosion classes according to EN ISO 12944-9 and field experiences, compared to only hot dip galvanized steel.

Coating	Life expectancy[1)] (year)		C2-C4	C5	CX
85 µm hot dip galvanizing Zn-Mn phosphating 60 µm polyester or epoxy powder coat	L	<7	●	●	●
	M	7-15	●	●	●
	H	15-25	●	●	●
	VH	>25	●	●	●
85 µm hot dip galvanizing	L	<7	●	●	●
	M	7-15	●	●	●
	H	15-25	●	●	
	VH	>25	●		

[1)] Life expectancy is defined as time until the steel corrodes on 3% of the coated area. L, M, H, VH are defined in EN ISO 12944-1. Life expectancy for only hot-dip galvanized steel is calculated based on corrosion rates specified in EN ISO 9224

8. Basis for the approval

The evaluation of CombiCoat® is based on reports owned by the holder of the approval.

9. Marking

Finished products are not marked. Traceability is ensured by delivery documents.

The approval mark for SINTEF Technical Approval TG 2303 may also be used in the delivery documents.

10. Liability

The holder/manufacturer has sole product liability according to current law. Claims can only be made against SINTEF under general law or other special grounds.

for SINTEF

Hans Boye Skogstad
Approval Manager